



NORDISKA KOMMISSIONEN FÖR GEODESI

Chairman
NIELS ANDERSEN
DTU Space
National Space Institute
Juliane Maries vej 30
Building Rockefeller, room 264
DK-2100 KØBENHAVN
Danmark

Secretary
MIKAEL LILJE
Lantmäteriet
Geodesienheten
SE-801 82 GÄVLE
SVERIGE

THE PRESIDIUM OF THE NORDIC GEODETIC COMMISSION (NKG)

MINUTES FOR THE 47TH MEETING

MASALA, FINLAND

MARCH 17-18, 2011

PARTICIPANTS

Denmark:	Niels Andersen, DTU Space Lola Bahl, KMS
Finland:	Markku Poutanen, FGI Pasi Häkli, FGI
Iceland	Thorarinn Sigurdsson, LMI
Norway:	Dagny Lysaker, SK Anne Jørgensen, SK Torbjørn Nørbech, SK
Sweden:	Jan Johansson, Chalmers Jonas Ågren LM



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ITEM 1. OPENING OF THE MEETING

Niels Andersen opened the meeting. Mikael Lilje, Per Erik Opseth, Per Knudsen and Gudmundur Valsson sent their apologies for not being able to participate. Because the secretary was not participating, Markku promised to compile the minutes with help of Pasi.

ITEM 2. APPROVAL OF THE AGENDA

The agenda was approved. Correction of the number of the meeting (47th).

ITEM 3. MINUTES FROM NKG PRESIDIUM MEETING 46

The minutes from Presidium meeting no 46 was approved. The actions from the presidium meeting 46 were reviewed and unfinished actions were revised.

- **Action:** Denmark will appoint member to the WG of Geodynamics
- **Action:** Presentations of the NKG General Assembly 2010 will be put on the NKG web page by the end of March

New deadline for submitting papers to GA proceedings: 1st of May (also slides + brief text/extended abstract accepted if no full paper available). Extended abstracts (if not original work) could refer to the original articles; WGs and other common works should be documented in the proceedings

- **Action:** Presidium members should encourage their own people to do the full paper or at least extended abstract.
- **Action:** The original NKG logo is now available as jpg, postscript and some other format. Markku will distribute the logo. (see Item 5)

There are several possible softwares available for organizing video/tele conference. Referring to the resolution of the GA, telecons should be used when appropriate but for the Presidium meetings they can be used for extra meetings, semi-annual meetings should stay as now

- **Action:** A list of telecon facilities in institutes are prepared, and testing of telecons will be made before end of 2011

ITEM 4. BRIEF REPORTS ON FINANCIAL AND ORGANISING ISSUES AT THE NORDIC NATIONAL MAPPING AUTHORITIES

- DK/KMS (Lola):
 - economic situation hard but at the moment manageable
 - new strategy for next four years
 - Developing of infrastructure, intelligent (GPS-based) traffic/road pricing, "digitalizing Denmark" - saves money but who will pay? (political issues)
 - new director starting 1st of June



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- DK/DTU (Niels):
 - DTU moving to a new campus probably April/June? 2012
 - new masters program: earth and space physics and engineering, including geodesy, geomatics, physics,
 - Activities in Greenland and Antarctica

- IS (Thorarinn):
 - The budget has been cut by 10%, less money for field work and travelling; cuts has not been resulting in a reduction of man power but will slow down the progress of projects
 - Focussing to finalize the height system and releasing it within a month
 - Developing permanent GNSS network (9 new stations)
 - Inspire: Iceland application to EU will result in more work for Inspire

- SE/OSO (Jan):
 - Changes in Chalmers organization; Dept. name changed to Earth and space sciences
 - students from abroad have now to pay of studies, less students, merge of courses, cut of masters programs
 - National infrastructure funding for geo-VLBI SCG, GNSS/tide gauge,
- SE/LM (Jonas):
 - Arne Bjerhammar passed away Feb. 6., 2011
 - LM new strategy and plan
 - aim to have municipalities to SWEREF99/RH2000
 - densification of permanent GNSS network to 400 stations
 - new geoid model, gravity measurements
 - maintenance of RFs (report by Ågren and Engberg)
 - geodesy education in KTH uncertain, masters program geodesy and geomatics closed

- SK (Anne, Torbjörn, Dagny):
 - more money for 2011
 - introducing the matrix organization
 - geophysical RF, 1cm geoid
 - IT resources at NMA
 - coast-zone project: SK aims to take leading role in sea level measurements, flooding and avalanches, mapping of the height along the coasts (laser scanning,...), probably new DEM
 - VLBI and other facilities in Ny Ålesund, application was sent to government in December, decision of funding in later in 2011

- FI (Markku):
 - Risto retired in February, new DG not yet elected, decision within few weeks
 - FGI has tight budget for 2011: savings, but still manageable
 - application of funding for renewing the Metsähovi instrumentation has been submitted to the Ministry: decision will be made in spring/summer



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- renewal of the National gravity system, A10 measurements ready at First Order gravity points, this summer auxiliary measurements, some field work still next years
- In a co-operation with the NSL recommendations of public administration for GNSS measurements is under preparation
- Aalto university: big organisational changes have been started in the beginning of this year, new schools, geodesy now in school of engineering
- Discussion about education in geodesy and co-operation between Nordic countries. Decreasing budgets and number of students threatens higher geodesy education. NKG could be active and offer an umbrella for common Nordic education platform.
- **Action:** Seek of co-operation possibilities between Universities and NMAs. Status update and discussion in the next meeting.

ITEM 5. CHAIRMEN'S AND SECRETARY'S REPORT

NKG Logo: As the initiative of OB Andersen, the original high-resolution NKG logo accepted in GA 1986 was received via DTU. It was agreed that the logo will be taken in use in all further NKG occasions. Different formats (AI, EPS, JPG) are now available via NKG web page, under the menu item "NKG Data Banks" (see action in Item 3)

Sponsorship by NKG at various international events: Discussion on use of NKG logo in conferences, meetings and other NKG-related or NKG sponsored occasions. Instructions when and how to use the logo; related to the NKG outreach policy.

- **Action:** As a part of NKG outreach, a plan should be prepared how to use the NKG logo at various international events; before that the use is case-by-case based permission of the chairman.
- **Action:** Anne will prepare with the help of the presidium members a proposal for NKG MS Word template, including the logo and name of NKG also in English in the heading

ITEM 6. REFERENCE NET STRATEGY FOR THE NMA

Discussion about the future and plans of National reference networks. A good starting point is the Swedish report on Geodetic Infrastructure. Discussion how to make transformation and take crustal deformation into account. How users can get official coordinates when measuring today.

- Norway (Torbjörn):
 - problems with passive network (height) (ITRF93/ETRS89)
 - CPOS service
 - definition of the ETRS89 - active network in global frame → transformation to ETRS89 (correction grid, RTCM) = correct coordinates from active network (not the benchmarks)
 - selection of active stations
- Sweden (Jonas):
 - report by Ågren and Engberg



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- question of relation between active and passive stations/network; 200 km between active stations
- densification of sparse network down to tens of km in passive network; also a possibility to have a dense active network
- In Sweden maintenance of 50 km dense passive points, revisited every 5 years, active SWEREF
- Denmark (Lola):
 - 10km network (715 points) will be reduced to 170 points (these will be maintained)
 - 5d network (lat, lon, h, H, t), ITRF2005, GNSS+levelling remeasured every 3 years → land uplift values (120 points)
 - 10 permanent GNSS stations; close to tide gauges

Key issue: NMA define transformation from ITRF to the National system with sufficient accuracy

Classical way to use networks of reference frames has been changed; active networks require good models for deformation, land uplift et cetera.

ITEM 7. FOLLOW UP ON NKG GENERAL ASSEMBLY 2010

Proceedings, current status and other topics already discussed in Item 3.

ITEM 8. REPORTS FROM THE WORKING GROUPS.

WG Geodetic Infrastructure (Per): Per was not participating, the WG did not yet had its meeting

WG Geodynamics (Dagny): Group meeting on previous week; report available on NKG web page. Discussion about publication of AG results and preparation of the agreement on exchange of data from absolute gravity observations. Dagny will edit the draft according to the discussion. Discussion about preparation of proposals for NKG projects about absolute gravity measurement in Fennoscandia, co-operation between the operators of the superconducting gravimeters in Onsala, Metsähovi and Ny-Ålesund, and a new gravity GIA model for Fennoscandia.

WG Geoid and Height Systems (Jonas): No meeting yet, planned in May. E-mail discussion on possible projects: computation of a new NKG quasigeoid model; management of data for geoid determination; data requirements for a future 5 mm (quasi)geoid model; finalisation of the Baltic Levelling Ring (BLR) project; maintenance of the levelling networks/database; future height systems in the Nordic area; empirical land uplift modelling; connection to tide gauges.

WG Reference Frames, Positioning and Navigation (Pasi): WG meeting was prior to the Presidium meeting. Discussed topics and possible project proposals: Transformation ITRF → ETRS89 with velocity modes; Nordic GNSS analysis center. Other topics discussed geodetic infrastructure, modernization of GNSS and antenna calibrations, Nordic Positioning Service and use of GNSS for ionosphere and troposphere studies.



- **Action:** Presidium studies a possibility to arrange a workshop on land uplift modelling (inter-WG topic) as a kick-off of the project. This can be done e.g. in connection of next NKG Autumn School 2012.

ITEM 9. PROPOSALS FOR PROJECTS

No proposals to decide. Discussion in Item 8.

ITEM 10. OUTREACH

Outreach topics were discussed in Items 3 and 5.

ITEM 11. NKG WEB

NKG Web is running. WG chairs and NKG secretary has possibility to upload information on the web pages. Instructions have been submitted how to do it. More material is needed, and WGs should update their information regularly.

ITEM 12. THE INTERACTION BETWEEN NKG, THE EUREF TECHNICAL WORKING GROUP.

Markku gave report on previous Euref TWG meetings and coming events.

- Next Euref GA will be in Chisinau May 2011
 - elections: EUREF sub-commission chair, TWG chair, EUREF secretary will be elected in GA
 - Markku is chairing ECGN (European Combined Geodetic Network), but it has had very slow progress. Proposal in preparation for GA.
 - Discussion in previous TWG about the lifetime of ETRS89 coordinates, due to crustal deformations in Europe; no expiration date for Class B points. (NKG contribution could be valuable here)
 - Transformation parameters between national height systems and EVRF2007 - permission from countries needed before this can be published. Most countries already agreed.
 - ITRF2008 and transformation to ETRF2000, new memo by Altamimi published
 - EPN/ITRF2008/IGS08 taken in use.
- **Action:** Markku will report progress in next Presidium meeting.

ITEM 13. OTHER BUSINESS

Report from the Russian/Denmark/ Finland/Norway/Sweden meeting in Irkutsk: Markku informed about the Nordic Russian meeting in Irkutsk. Very little has happened after the meeting, and data exchange is not completed. The agreed projects seems to be delayed. Heikki



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Virtanen who is the coordinator of the project has been contacted to Russians about the data exchange. NKG presidium looks forward to advance the project and encourages to continue the work.

ITEM 14. NEXT MEETING OF THE PRESIDIUM

Next meeting of the Presidium was preliminarily decided to be October 3.-4., 2011 in Sweden, place t.b.d.

ITEM 15. CLOSING

Niels thanked the participants and closed the meeting.